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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/684,470	10/06/2000	David W. Bainbridge	2400/14	4045

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Jack C. Sloan, Esq.
Dorr, Carson, Sloan & Birney, P.C.
3010 East 6th Avenue
Denver, CO 80206

EXAMINER

VO, HAI

ART UNIT PAPER NUMBER

1771

DATE MAILED: 02/19/2003

10

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/684,470

Applicant(s)

BAINBRIDGE ET AL.

Examiner

Hai Vo

Art Unit

1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 December 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-8, 11, 12, 14-24, and 30-35 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kasahara et al (US 4,034,506). Kasahara discloses a porous foam plate disposed on the surface of water contained in the casing comprising an aggregate of foamed polyethylene beads having a diameter 10 mm (abstract, column 7, line 39). Kasahara discloses the foamed polyethylene beads being coated with a liquid adhesive that represents about 52 wt% of the foam plate (reference example, column 7, lines 5 and 11). Kasahara discloses a porous foam plate having a porosity of 37 volume% and continuous open spaces among the adjacent beads (column 7, lines 38, and abstract). Likewise, it is apparent that the foam plate is breathable. Since the foam of Kasahara meets

Art Unit: 1771

all the requirements of the claims (plastic beads coated with an adhesive that is cured from a liquid state while in initial contact with the beads and the amount of the adhesive meeting the specific range set out in the claims, and the bead size within the claimed range), it is the examiner's position that hardness would be inherently present. Note In re Best 195 USPQ at 433, footnote 4 (CCPA 1977) as to the providing of this rejection under 35 USC 103 in addition to the rejection made under 35 USC 102. The examiner wishes to point out that as the USPTO is unequipped to perform the necessary experimentation, the burden of showing the hardness outside the instantly claimed range is shifted to Applicant.

With regard to claims 2 and 7, Kasahara discloses a porous foam plate disposed on the surface of water contained in the casing comprising an aggregate of foamed polyethylene beads having a diameter 2 to 10 mm (column 2, line 66). The claimed range overlaps with the values disclosed by Kasahara. Alternatively, for the non-overlapping part of the ranges, such a variable would have been recognized by one skilled in the art to control the degree of porosity of the foam plate. As such, in the absence of unexpected results, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the beads having the size instantly claimed since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Art Unit: 1771

With regard to claims 3-5, 8, 11, 12, 14, and 15, Kasahara discloses the plastic bead made from polyethylene or polystyrene resins (column 2, lines 64-65).

With regard to claims 16-18, Kasahara reads on the claimed limitations (column 3, lines 1, and 13-20)

With regard to claims 20, 22, and 23, It is the examiner's position that the foam plate of Kasahara is identical or slightly different than the claimed padding material prepared by the method of the claim, because both articles are made of the same materials, having structural similarity (beads coated with an adhesive). Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or an obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). The burden has been shifted to the applicant to show unobvious differences between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289,291 (Fed. Cir. 1983). The Kasahara reference anticipates or strongly suggests the claimed subject matter. It is noted that if the applicant intends to rely on Examples in the specification or in a submitted Declaration to show non-obviousness, the applicant should clearly state how the Examples of the present invention are

commensurate in scope with the claims and how the Comparative Examples are commensurate in scope with Kasahara.

With regard to claim 21, Kasahara discloses the foam plate comprising a coupling agent (column 3, line 27 et seq.).

4. Claims 9, 13, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kasahara et al (US 4,034,506). *In re Dailey*, 149 USPQ 47 (CCPA 1976), there is no evidence in the Applicant's disclosure to show that the particular shape of the bead is significant or is anything more than one of numerous shapes a person of ordinary skill in the art would find obvious for the purpose of providing the shape of the bead, therefore, the shape of the bead in itself would not render the claims patentable over Fritschel. See *Graham v. John Deere Co.*,
5. Claims 1-11, 13-25, and 30-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fritschel (US 3,856,721). Fritschel discloses a syntactic foam made from a blend of plastic beads and a liquid copolymer of butadiene-styrene and vinyl toluene (column 1, lines 60-63, and column 2, lines 1-10). Fritschel discloses the syntactic foam comprising 80 parts of the copolymer and 20 parts of plastic beads (table I). The plastic beads have a diameter from 20 microns to 1 inch (column 1, line 67 et seq.). However, such a variable would have been recognized by one skilled in the art as dependent upon the intended use of the product, such that larger plastic beads are preferred when the strength is not so important, and smaller plastic beads would be required when the strength is critical. As such, in the absence of

Art Unit: 1771

unexpected results, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the plastic beads having the particle size instantly claimed since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. Since the syntactic foam of Fritschel meets all the requirements of the claims (plastic beads coated with a copolymer that is cured from a liquid state while in initial contact with the beads and the amount of copolymer in the syntactic foam meeting the specific range set out in the claims, and the bead size encompasses the claimed range), it is the examiner's position that breathability, copolymer hardness and porosity of the foam would be inherently present. Applicant states that the bead size differential helps give the applicant's padding materials their quality of "breathability" (page 12 of Paper no. 9). Fritschel discloses the beads having the size within the range required by the claims (column 1, line 67 et seq.), therefore; the examiner found no reasons that the syntactic foam of Fritschel could not inherently have the breathability as the padding material of the present invention. In addition, the examiner wishes to point out that as the USPTO is unequipped to perform the necessary experimentation, the burden of showing the porosity and hardness outside the instantly claimed range is shifted to Applicant.

With regard to claims 3-5, 8, 11, 14, and 15, Fritschel discloses the plastic bead including polyethylene, ABS (column 2, lines 7-8).

With regard to claims 9, 10, and 13, Fritschel discloses the bead can be made of glass (column 2, lines 4-5). It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the hollow ceramic spheres to form the beads since the examiner takes Official Notice of the equivalence of hollow ceramic sphere and glass sphere for their use in the syntactic foam art and the selection of any of these known equivalents would be within the level of the ordinary skill in the art.

With regard to claims 16-18, Fritschel discloses the polymeric material including a copolymer of butadiene and styrene and curing agent cobalt naphthenate (column 1, lines 60-63 and column 2, line 57).

With regard to claims 20, 22, and 23, It is the examiner's position that the syntactic foam of Fritschel is slightly different than the claimed padding material prepared by the method of the claim, because both articles are made of the same materials, having structural similarity (beads coated with a polymeric material). Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or an obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). The burden has been shifted to the applicant to show unobvious differences between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289,291 (Fed. Cir. 1983). The

Fritschel reference strongly suggests the claimed subject matter. It is noted that if the applicant intends to rely on Examples in the specification or in a submitted Declaration to show non-obviousness, the applicant should clearly state how the Examples of the present invention are commensurate in scope with the claims and how the Comparative Examples are commensurate in scope with Fritschel.

With regard to claim 21, Fritschel is silent as to a coupling agent. It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the coupling agent to coat the beads prior to producing the beads to the polymeric matrix motivated by the desire to promote the adhesion between the beads and the polymeric matrix.

With regard to claim 25, *In re Dailey*, 149 USPQ 47 (CCPA 1976), there is no evidence in the Applicant's disclosure to show that the particular shape of the bead is significant or is anything more than one of numerous shapes a person of ordinary skill in the art would find obvious for the purpose of providing the shape of the bead, therefore, the shape of the bead in itself would not render the claims patentable over Fritschel. See ***Graham v. John Deere Co.,***

6. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kasahara et al (US 4,034,506) or Fritschel (US 3,856,721) as applied to claim 1 above, in view of Nowak et al (US 5,837,739). Fritschel is silent as to the beads made from different plastic materials. Nowak discloses the syntactic foam can be made from different spheres (column 5, lines 28-30). It would have been obvious to one having ordinary skill in the art at the time the

invention was made to employ the beads made of different plastic materials motivated by the desire to lower the cost of the product.

7. Claims 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fritschel (US 3,856,721) as applied to claim 1 above, in view of Rex (US 4,250,136). The primary reference is silent as to the outer casing surrounding the syntactic foam. Rex supplies the missing feature (column 5, lines 24-27). Rex teaches the outer casing **12** comprising reinforcing layers **24** and **26**, intermediate foam layer **18** and a resin layer **22** (column 6, lines 25-28 and figures 1 and 2) wherein the reinforcing layers **24** and **26** made of fiber mats or woven cloth (column 6, lines 20-21). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have employed the outer cloth or net casing surrounding the syntactic foam motivated by the desire to protect and impart the strength of the foam.
8. Claims 1, 2, 4-9, 11-20 and 22-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nickerson et al (US 6,301,722). The claim language does not require the bead completely coated with an adhesive. Nickerson discloses a breathable padding material comprising a plurality of plastic beads having an average diameter between 0.05 to 0.5 inch (column 7, line 5). The plastic beads are integrally joined to each other and outer layers 3, 5 by an adhesive (figure 27). Likewise, it is clearly apparent that the plastic beads are partially coated with an adhesive. The adhesive is cured from a liquid state (column 6, lines 28-30). Nickerson discloses the beads having significant interstitial spaces and volume 35% of the total volume of the block

(column 6, line 43). Nickerson is silent as to the amount of the adhesive. However, such a variable would have been recognized by one skilled in the art to bond the plastic beads to each other and the plastic beads to the outer layers. As such, in the absence of unexpected results, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the adhesive having the amount instantly claimed since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. Since the padding material of Nickerson meets all the requirements of the claims (plastic beads partially coated with an adhesive that is cured from a liquid state while in initial contact with the beads and the bead size falling within the claimed range), it is the examiner's position that hardness would be inherently present.

With regard to claims 4, 5, 8, 11, 12, 14, 15, the beads are solid, elastic and made from thermosetting and thermoplastic materials (column 3, lines 60-65). With regard to claims 9 and 13, Nickerson is silent as to the hollow shape of the beads. *In re Dailey*, 149 USPQ 47 (CCPA 1976), there is no evidence in the Applicant's disclosure to show that the particular shape of the bead is significant or is anything more than one of numerous shapes a person of ordinary skill in the art would find obvious for the purpose of providing the shape of the bead, therefore, the shape of the bead in itself would not render the claims patentable over Nickerson. See *Graham v. John Deere Co.*,

Art-Unit: 1771

With regard to claims 16-18, It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ an adhesive made of a two-part resin or a thermosetting resin or a thermoplastic resin since the examiner takes Official Notice of the equivalence of each resin listed above for their use in the adhesive art and the selection of any of these known equivalents would be within the level of the ordinary skill in the art.

With regard to claims 19, 24-29, the padding material is composed of the beads made of different plastic materials (column 6, lines 63-65), being placed in a cloth or net casing (figures 20 and 21) and used in conjunction with a hard plastic, outer shell (figure 28).

With regard to claims 20, 22, 23, see product-by-process rational in the paragraph no. 3.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named

in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(I)(1) and § 706.02(I)(2).

Response to Arguments

9. The specification objections, the 112 claim rejections and the art rejections in Paper no. 7 have been overcome by the present amendment and response.
10. The examiner wishes to point out that there is an error in the disposition of claims of the office action summary mailed on 06/06/2002. Claim 29 should not be objected to as indicated in the office action summary. Claim 29 has been rejected under 35 U.S.C. 103 (a) (page 9 of Paper no. 7). The examiner apologizes for any inconvenience that may have been caused.
11. Applicant's arguments with respect to claims 1-35 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


Art Unit: 1771

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai Vo whose telephone number is (703) 605-4426. The examiner can normally be reached on Tue-Fri, 8:30-6:00 and on alternating Mondays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (703) 308-2414. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.


TERREL MORRIS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700